

CLAIMS

What is claimed is:

1. A method of writing to a non-volatile memory including a total value incremented by a fixed amount, said method comprising the steps of:
 - a. initializing a first non-volatile memory location including multiple bits corresponding to specific bit locations such that all of said bits are set to a common state representing a first value;
 - b. initializing a second non-volatile memory location including multiple bits corresponding to specific bit locations such that all of said bits except for one are set to a common state representing a second value;
 - c. combining said first and second values to obtain the total value; and
 - d. incrementing the total value by a fixed amount by changing said second value of said second non-volatile memory location by shifting which of said bit locations includes said bit not set to said common state.
2. The method of claim 1, further including the step of incrementing the total value by changing said first value of said first memory location by incrementing one bit location in response to said second memory location being incremented through all of said multiple bit locations.
3. The method of claim 2, wherein said step of incrementing the total value is further defined by combining a second value equal to one plus a maximum number of bit locations present in said second non-volatile memory location to said first value, and further including the step of setting said second value back to said initialized value.
4. The method of claim 1, wherein said bit not set to said common state in said second non-volatile memory location is a least significant bit.

5. The method of claim 1, wherein said bit not set to said common state in said second non-volatile memory location is a most significant bit.
6. The method of claim 1, wherein said common state is an erased state.
7. The method of claim 4, wherein step d is further defined by shifting said one bit not set to said common state one bit location toward a most significant bit.
8. The method of claim 6, wherein said shifting of said one bit location is further defined by erasing said bits of said second non-volatile memory location and writing a new value such that said bits previously in said common state and remaining in a common state for said incremented value do not experience a write cycle.
9. The method of claim 1, wherein each of multiple bit locations of said first and second non-volatile memory locations are independently controllable.
10. The method of claim 1, wherein said step c is further defined by translating said second value by way of a preset algorithm before combining said second value with said first value.
11. The method of claim 1, wherein said combining steps is further defined by said first value representing most significant bits and said second value representing a least significant bit such that said combination of said first and second values are a binary "OR" calculation.
12. The method of claim 1, wherein said total value is used to encrypt a transmission for a remote keyless entry system.

13. The method of claim 15, wherein said first and second non-volatile memory locations are located within a transmitter of said remote keyless entry system, such that said first and second values provide for the storage of a rolling code.

09929410301
T08F01 2402860

14. A non-volatile memory device for use in a rolling code security system comprising:

first and second non-volatile memory devices for storing a total value used to form a coded signal that is incremented by a fixed amount;

said first and second non-volatile memory devices including multiple bit locations that represent first and second values, said first and second values combined to form said total value, and only one of said multiple bit locations completes a write cycle each increment of said total value.

15. The device of claim 1, wherein said first non-volatile memory device includes said first value and said second non-volatile memory device includes said second value.

16. The device of claim 2, wherein a number of said multiple bit locations are disposed within said second non-volatile memory location and said total value is incremented by shifting which of said multiple bit location disposed within said second non-volatile memory location are in a non-common state.